

Appl. No. 10/702,442
Amendment dated: November 3, 2005
Reply to OA of: August 3, 2005

REMARKS

Applicants have amended the claims in order to more precisely define the scope of the present invention and in view of the remarks presented in the outstanding Official Action. Claim 1 has been amended to incorporate the limitations recited in claims 4 and 6. Additionally, Applicants have added new claim 9, which further defines the scope of the present invention. Support for these amendments may be found throughout the specification as originally filed. Applicants respectfully assert that all claims now pending in the present application are in full compliance with 35 U.S.C. §112 and are clearly patentable over the references of record.

Applicants have also amended the specification in order to address the objection to the specification found in the outstanding Official Action. Specifically, Applicants have amended the table on page 10 of the specification to clarify that the unit of measurement for average stripping rate is Å/min. This amendment is supported by, e.g., page 8, line 8 of the originally filed specification. Applicants respectfully request that, in light of the amendment to the specification, this objection be withdrawn.

The rejection of claims 1-3 under 35 U.S.C. §102(b) as being anticipated by Degenhardt has been carefully considered but is most respectfully traversed in light of the amendments to the claims and the following comments.

Applicants wish to direct the Examiner's attention to MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."
Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis*

Appl. No. 10/702,442
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test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed.Cir. 1990).

Applicants have amended claim 1 to incorporate the limitations of claim 4 and 6. The Official Action inherently acknowledges that Degendt fails to anticipate the limitations of claims 4 and 6. Therefore, because these limitations are now incorporated into claim 1, Degendt clearly fails to disclose every element of the presently amended claim as required for a proper §102(b) rejection as set forth in MPEP §2131. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 1-3 under 35 U.S.C. §102(e) as being anticipated by Muraoka has been carefully considered but is most respectfully traversed in light of the amendments to the claims and the following comments.

Applicants have amended claim 1 to incorporate the limitations of claim 4 and 6. The Official Action inherently acknowledges that Muraoka fails to anticipate the limitations of claims 4 and 6. Therefore, because these limitations are now incorporated into claim 1, Muraoka clearly fails to disclose every element of the presently amended claim as required for a proper §102(b) rejection as set forth in MPEP §2131. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 4-8 under 35 U.S.C. §103(a) as being unpatentable over Degendt has been carefully considered but is most respectfully traversed in light of the amendments to the claims and the following comments.

Applicants wish to direct the Examiner's attention to the basic requirements of a prima facie case of obviousness as set forth in the MPEP § 2143. This section states that to establish a prima facie case of obviousness, three basic criteria first must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference

Appl. No. 10/702,442
Amendment dated: November 3, 2005
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(or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Section 2143.03 states that all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The Official Action urges that Degendt discloses treating a surface of a substrate as claimed in the present invention, including allowing the gas bubbles to ascend along the surface of the substrate such that the gas bubbles work to strip a substance from the surface of the substrate. Applicants specifically traverse this statement.

The present invention is directed to a method of treating a surface of a substrate wherein gas bubbles are allowed to ascend along the surface of the substrate such that the gas bubbles work to strip a substance from the surface of the substrate. As explained at, e.g., page 3, lines 18+ of the specification, as gas bubbles come in contact with a substrate surface, the gas bubbles located at the upper portion of the substrate surface are pushed to rise by the gas bubbles located at the lower portion of the substrate surface. In the course of such a dragging ascent of the gas bubbles, the boundary layer is compressed and made thinner, thereby resulting in a continuous refreshment of the reaction interface so as to allow a rapid passage of molecules of a reactive gas through an ultrathin liquid film to effect a reaction on the substrate surface. Therefore, the present invention clearly recites the ascent of bubbles along the surface of the substrate.

To the contrary, Degendt only discloses that the bubbles **contact** the surface

Appl. No. 10/702,442
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of the substrate. There is no disclosure in Degendt that the bubbles contact and ascend along the surface of the substrate as claimed in the present invention. Rather, Degendt only suggests that the bubbles come in contact with the substrate. Therefore, because Degendt fails to teach or suggest every element of the present claims, the Official Action has failed to make out a prima facie case of obviousness as required by MPEP §2143. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The Official Action implicitly acknowledges that Degendt fails to disclose a method of treating the surface of a substrate wherein only a bottom portion of the substrate is immersed in the liquid. However, the Official Action urges that, because Degendt discloses a completely immersed substrate and a completely unimmersed substrate, it would have been obvious to one with ordinary skill in the art to use the combination of two teachings such that the substrate is only partially immersed because both of which have been used and be able to remove the resist and residues. Applicants specifically traverse this statement.

Applicants respectfully submit that the Official Action has not provided an adequate motivation statement as required by MPEP §2143 and has therefore failed to make out a prima facie case of obviousness. The teaching or suggestion to make the claimed combination must be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicants assert that Degendt clearly fails to provide the necessary suggestion for modifying the reference such that the substrate is only partially immersed, rather than fully immersed or not immersed at all as disclosed in Degendt. Degendt discloses one method in which the substrate is suspended over liquid rather than being immersed in liquid. The tank holding the liquid is covered and the liquid is heated such that the substrate is exposed to a moist ambient of ozone. In an alternate embodiment, Degendt discloses complete immersion of the substrate and having gas bubbles contact the substrate in order to remove photoresist. It does not follow that simply because both of these methods work to remove photoresist from a substrate that it would be

Appl. No. 10/702,442
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obvious to partially immerse the substrate as claimed in the present invention. Because Degendt makes no explicit suggestion for modifying the invention as such, motivation can only come from looking to the present application. This is clearly prohibited by MPEP §2143. At best, the motivation statement provided in the Official Action constitutes impermissible hindsight. It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. In re Fritch, 23 USPQ 1780, 1784 (Fed Cir. 1992). A person skilled in the art would only conceive of the partial immersion method as claimed by the present invention by looking to the specification of the present invention. Therefore, for all of the forgoing reasons, Applicants respectfully assert that the Official Action has failed to make a prima facie case of obviousness and request that this rejection be withdrawn.


Finally, the Official Action urges that it would have been obvious to one of ordinary skill in the art to modify Degendt such that a plurality of substrates are simultaneously processed. However, the Official Action ignores that the present invention claims more than just multiple substrates being processed simultaneously. Rather, the present invention claims a plurality of substrates that are parallel to each other and equidistantly arranged. As explained in the Specification (see, e.g., page 3, line 18 through page 4, line 2), ascending gas bubbles are formed more easily by arranging a plurality of the substrate in parallel to one another and equidistantly arranged. Degendt fails to disclose this feature of the presently claimed invention and Applicants respectfully assert that unique arrangement claimed, which is important to the ascension of the bubbles, is not obvious. Accordingly, Applicants respectfully assert that a prima facie case of obviousness has not been made and therefore the rejection should be withdrawn.

Appl. No. 10/702,442
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In view of the above comments and further amendments to the claims,
favorable reconsideration and allowance of all of the claims now present in the
application are most respectfully requested.

Respectfully submitted,

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